

5 extracting a characteristic point in the radiation
image by using a geometric pattern for detecting an
irradiation field edge; and

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15 3. A method according to claim 1, wherein in the
extraction of said characteristic point, a relation
between pixel value of a target pixel and peripheral
pixel of said target pixel is compared with said
geometric patterns and an irradiation field edge
20 likelihood is scored.

4. A method according to claim 1, wherein in the detection of the edge portion of said irradiation field, a line having a possibility that they correspond to said irradiation field edge is extracted on the basis of said extracted characteristic point.

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geometric pattern extracting means for extracting
a geometric pattern in a radiation image; and

8. An apparatus according to claim 7, wherein said
20 geometric pattern extracting means comprises:

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line extracting means for extracting a plurality of lines from an image on the basis of said plurality of characteristic points extracted by said

characteristic point extracting means.

9. An apparatus according to claim 8, wherein said characteristic point extracting means comprises:

5 target pixel scoring means for calculating a score of a target pixel on the basis of a relation among pixel values of a plurality of pixels arranged on a line in the image; and

10 characteristic point discriminating means for determining whether the extracted point are the characteristic point or not on the basis of the score of the target pixel calculated by said target pixel scoring means.

15 10. An apparatus according to claim 9, wherein said characteristic point extracting means holds the score calculated by said target pixel scoring means as a score of the characteristic point, and

20 said line extracting means extracts line from the image on the basis of said held score of the characteristic point.

25 11. An apparatus according to claim 8, further comprising forming means for radiating a radiation to an object, thereby forming a radiation image.

12. A recording medium which records a computer-

readable program, wherein

said program is used for executing an irradiation field extracting method of extracting an irradiation field from a radiation image, and

5 said program comprises the steps of:

extracting a characteristic point in said radiation image by using a geometric pattern for detecting an irradiation field edge; and

10 detecting an edge portion of said irradiation field on the basis of said characteristic point.

13. An irradiation field extracting method of extracting an irradiation field from a radiation image, comprising the steps of:

15 holding a plurality of geometric patterns for detecting an irradiation field edge;

20 comparing a target pixel and peripheral pixel of said target pixel with said plurality of geometric patterns, thereby detecting pixel, as a characteristic point, having a possibility of being an edge portion of said irradiation field in said radiation image, and calculating a score indicative of the possibility that said characteristic point is the edge portion of said irradiation field; and

25 obtaining a line showing the edge portion of said irradiation field from position and score of said detected characteristic point.

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14. A method according to claim 13, wherein the line showing the edge portion of said irradiation field is a line in which a total of the scores of said characteristic points existing on said line is equal to
5 or larger than a predetermined value.

15. A method according to claim 13, wherein a process for obtaining the line showing the edge portion of said irradiation field is executed to each of a left
10 edge, a right edge, an upper edge, and a lower edge, and

said geometric pattern is changed in accordance with the position of the edge portion.

16. A method according to claim 15, wherein said geometric pattern is rotated in accordance with the position of the edge portion.

17. A program for executing an irradiation field extracting method of extracting an irradiation field
20 from a radiation image, comprising the steps of:

holding a plurality of geometric patterns for detecting an irradiation field edge;

comparing a target pixel and peripheral pixel of
25 said target pixel with said plurality of geometric patterns, thereby detecting pixels, as characteristic points, having a possibility of being an edge portion

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